

# US-AEP Thailand

## FY 2004 Work Plan

### Country Strategy

#### Background

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Coping with the environmental impacts of rapid urbanization and industrial growth remains a significant challenge for Thailand. According to the State of the Environment for 2002 developed by the Royal Thai Government (RTG), degradation of the natural environment continues largely unabated due to "natural disasters, impacts from human activities, and inappropriate environmental management." The report specifically cites Bangkok air quality as a pressing concern, and the worsening water quality of Thailand's rivers. Hazardous waste management remains an on-going challenge, since an estimated seventy percent of the hazardous waste goes untreated.

In response to these mounting environmental challenges, Thailand is pursuing a reform agenda that strengthens the role of citizens and local governments in environmental decision-making. Driven primarily by constitutional mandates, these new legal measures and institutions apply to all branches of government and to civil society. On the legislative side, the first elected Senate in Thailand now investigates citizen environmental complaints and makes response recommendations to the government.

On the judicial side, the Administrative Court has handed down landmark environmental decisions, which have sent a strong signal to agency officials on the importance of transparency and accountability. Further, the Supreme Court has recently established an environmental chamber within the court to handle environmental cases, and is working to establish new court policies and practices for environmental cases, aiming toward the eventual creation of a specialized environmental court.

Most reforms, however, affect national and local administrative agencies. As part of a major administrative reform initiative, the RTG established the Ministry of Natural Resources and Environment (MoNRE), which consolidates and rationalizes a wide range of environmental functions from across many ministries (including the former Ministry of Science, Technology and Environment) and strengthens the role of regional offices to provide training and information to provincial and local governments. Meanwhile, local governments continue to assume more responsibility in managing their own environment, improving environmental infrastructure, and involving their citizens in environmental decision-making.

Political changes at the local level also highlight the importance of the environment. In recent years, citizens are more likely to elect well-educated mayors and municipal councilors who focus on broad local issues rather than small interest groups. Further, in a number of provinces, citizens are forming new civic groups and associations, comprised of middle class professionals, academics and business leaders, who are eager to promote improvements in the cities through philanthropic work and local political action.

Despite these changes, much work remains in promoting the adoption of improved national and local-level policies and practices, and strengthening skills development. While legal reforms enacted in 1992 establish the principles and framework for Thailand's environmental regulatory system, law enforcement still remains weak due to overlapping authority, and technical and financial resource limitations.

And finally, environmental conflicts between communities and project developers continue to be a major challenge for Thai policymakers. Strong opposition from local communities has led to significant delays in infrastructure project development, which has affected Thailand's overall development agenda. While the Cabinet recently promulgated a new decree requiring agencies to

develop new strategies for mediating disputes, Thailand is still a long way from implementing effective dispute resolution policies and practices.

## **Thailand Country Strategy**

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As detailed in the activity descriptions and summarized below, US-AEP/Thailand has structured eight partnership activities that aim to achieve specific results that contribute to US-AEP's overall strategic objective – Cleaner Cities and Industries in Asia – and its three intermediate results (IRs). As described below, each of the projects addresses one principal Intermediate Result – IR 1. Improved environmental governance, IR 2. Improved urban environmental management, technologies and resource efficiency, and IR 3. Improved industrial environmental management, technologies and resource efficiency – but it is important to note that each project will also achieve results against one or two of the other IRs.

Each project addresses a specific priority environmental challenge through a partnership approach that leverages the comparative advantage of a U.S. or Asian partner. On the Thai side, US-AEP/Thailand will engage government agencies, courts, local governments, universities, industry associations and groups, and non-government organizations (NGOs) to facilitate the adoption of improved environmental policies, systems, management practices, and plans. On the U.S. side, US-AEP/Thailand will call on a wide range of experts from U.S. federal and state agencies, courts, cities, and civil society organizations, including environmental groups and industry leaders, to provide focused technical assistance, information, and appropriate technologies.

US-AEP/Thailand also supports US-AEP regional initiatives. Increasingly, the US-AEP/Thailand strategy also looks for opportunities to establish strategic counterpart linkages between US-AEP/Thailand and other countries. Examples include a linkage between the supreme courts of Thailand and India on establishing a “green bench”, and a community watershed partnership between counterparts from the Thachin River and Laguna de Bay in the Philippines.

### **Improved environmental governance**

In working to support Thailand's constitutional reform agenda, since 2000 US-AEP/Thailand has worked closely with a range of partners in all three branches of government and civil society to promote improved laws, policies, institutions and governance systems to strengthen Thailand's environmental regulatory system. In 2004, the program will continue this work formulating and implementing new policies and plans through strategic activities with core program partners that address priority challenges. Planned projects with that will meet program objectives under IR 1 will include:

- Project 1: Promoting Improved Environmental Dispute Prevention and Resolution
- Project 2: Strengthening Court Policies, Practices and Institutions for the Environment
- Project 3: Supporting Enactment and Implementation of the Public Consultation Act
- Project 4: Strengthening Compliance and Enforcement Policies and Practices

One key priority is to support Thai efforts to prevent or resolve environmental disputes. Building on an established partnership between with EPA and MoNRE in this area, US-AEP/Thailand will assist with policy implementation through the development of dispute prevention and resolution practitioners' guidelines, training of Thai mediators, and identification of a strategy to establish a mediation center of excellence (Project 1).

Since 2000, the program has worked with Thai courts, which has resulted in several landmark decisions, and in the establishment of a “green bench” at the Supreme Court. US-AEP/Thailand will continue to promote improved enforcement of environmental laws through work with the Supreme Court of Thailand and with the Thai Administrative Court by developing an action plan for establishing a specialized environmental court (Project 2).

Agency-level enforcement remains weak in Thailand. As a result, US-AEP/Thailand will continue efforts to formulate new strategies and methods for strengthening public participation in environmental decision-making through a range of activities. In 2004, US-AEP/Thailand will continue to support

enactment and implementation of the Public Consultation Act through strategic counterpart exchange with key decision-makers and specialized training (Project 3) and will work closely with national policymakers to strengthen compliance and enforcement policies and practices by reducing overlapping functions (Project 4).

### **Improved urban environmental management, technologies and resource efficiency**

Reversing the trend of increasing environmental degradation has become an important challenge for Thai environmental policymakers at the community level. Recognizing the enormous scale of this problem, US-AEP/Thailand will address two priorities of the RTG – air and water quality – and introduce tools and processes to help improve environmental management at the local level. The following three projects will meet program objectives under IR2:

- Project 5: Promoting Community-Based Environmental Management in Thachin River Basin
- Project 6: Developing Diesel Pollution Reduction Strategies for Bangkok
- Project 7: Improving Municipal Environmental Management

The Thachin River is a heavily polluted waterway that runs just west of Bangkok and is an important resource for hundreds of cities and local communities. Building on a partnership with the Chesapeake Bay and Laguna de Bay in the Philippines, US-AEP/Thailand will work closely with national and local government officials, community leaders and NGOs to introduce participatory methods for water quality restoration (Project 5), thereby helping reduce pollution discharges into the river from point and non-point sources.

Particulate emissions from diesel engines pose significant health threats to Bangkok citizens. To help reduce these harmful pollutants, US-AEP/Thailand will join the World Bank in supporting the Pollution Control Department and other agencies and authorities to reduce diesel emissions in Bangkok (Project 6). This initiative will support integrated air quality monitoring, technical options to reduce diesel vehicle emissions, and long-term management strategies. In the first stage, the project will support efforts to gain a better understanding of factors affecting in-use diesel vehicle emissions, to quantify them where possible, and to assess alternative mitigation options.

As the decentralization process continues, Thailand will devolve increasing responsibility for environmental management to provincial and local authorities, many of which have limited experience in environmental management systems, tools or processes. Also, local authorities in Thailand generally lack adequate resources to deliver environmental services effectively or to undertake needed capital projects. To help local governments overcome these problems, US-AEP/Thailand will support a number of activities to improve municipal environmental management, especially in the areas of economic/community development, financial management, cost recovery, and community outreach (Project 7).

### **Improved industrial environmental management, technologies and resource efficiency**

US-AEP/Thailand's primary focus for IR3 is to work with Thai government agencies, experts and business leaders to explore options to reduce fossil fuels consumption by promoting renewable energy and energy efficiency.

- Project 8: Reducing Fossil Fuels Consumption by Promoting Renewable Energy and Energy Efficiency

One project component will focus on strategies for increasing the capacity of industry and policymakers in energy efficiency and energy management, while another will institutionalize net metered renewable energy by building on regulations that allow very small power producers of solar, wind, micro-hydroelectricity, biomass, or biogas electricity to sell their surplus output to the grid.

## **Relationship to USAID and other Donor Programs**

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The US-AEP/Thailand program activities will be managed by the Regional Development Mission/Asia (RDM/A) in Bangkok, which will lead to more regional programming opportunities. While still in the program design phase, it is clear that RDM/A priorities will focus on addressing regional developmental challenges, and that partnership will serve as a primary delivery mechanism. As a middle income country undergoing significant positive institutional changes, Thailand is ideally situated as a platform for regional exchange, and US-AEP is an operational model for addressing regional challenges through collaboration with missions throughout the region.

To complement RDM/A regional programming, US-AEP/Thailand expects to play an important role in identifying and implementing regional programming opportunities for the environment. For example, in FY03 US-AEP/Thailand implemented a regional forum for senior judges from the region to share ideas and best practices on strengthening the judicial efforts to enforce environmental law. Looking ahead to FY04, US-AEP/Thailand expects also to develop and host a regional conference on community-based environmental management that will provide a platform for sharing lessons learning on-going US-AEP activities in Thailand, Philippines and Vietnam. Similarly, US-AEP/Thailand is well-positioned to support emerging US-AEP activities in the Mekong.

US-AEP/Thailand will continue its close work with other donors, especially the World Bank and Asian Development Bank. For example, US-AEP/Thailand is working with the World Bank and other donor partners to reduce emissions from Bangkok's fleet of diesel vehicles.

## **Strategy Development Process**

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US-AEP/Thailand oversees an integrated program that enjoys long-standing relationships with key Thai leaders and decision-makers on the environment. In developing the annual country strategy and workplan, throughout the programming year US-AEP/Thailand tracks new developments and identifies opportunities for new activities. In general, this process is both on-going and consultative, as project implementers work with a range of Thai partners and donors to test new ideas and strategies. In developing new workplan activities, US-AEP/Thailand ensures overall development impact by considering three factors: (1) planned activities must address a priority need; (2) the primary partner organization must have necessary capabilities and commitment to achieve program and activity objectives; and (3) US-AEP has the demonstrated comparative advantage to provide the necessary assistance.

## List of Projects

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1. **Promoting Improved Environmental Dispute Prevention and Resolution** — To support the development of policies, practices and institutions and capacity building programs necessary for the successful prevention and resolution of environmental disputes.
2. **Strengthening Court Policies, Practices and Institutions** — To formulate improved court policies, practices and institutions for the environment, including the establishment of an environmental bench and/or court, and training of key judges and experts.
3. Supporting **Enactment and Implementation of the Public Consultation Act** — To support enactment of the Public Consultation Act by facilitating further consultation with civil society to refine draft provisions and to continue implementation support.
4. **Strengthening Compliance and Enforcement Policies and Practices** — To support MoNRE in improving compliance and enforcement through policies and practices that strengthen MoNRE efforts to decentralize core functions to regional offices
5. **Promoting Community-Based Environmental Management in the Thachin River Basin** — To promote community-based environmental management for the Thachin River and assist in the planning and development of specific projects for pollution prevention and watershed protection.
6. **Developing Integrated Emission Strategies for Existing Land Transport” (DIESEL) Program for Bangkok** — To reduce particulate emissions from in-use diesel vehicles in Bangkok by working with national and municipal level agencies to adopt improved policy and technology solutions.
7. **Improving Municipal Environmental Management** — To improve the environmental management in selected Thai cities by sharing best practices in city redevelopment and financial management
8. **Reducing Fossil Fuels Consumption by Promoting Renewable Energy and Energy Efficiency** — To assist Thailand in reducing its consumption of fossil fuels by promoting energy efficiency measures and introducing net metering from small producers of renewable energy.

## Activities

### 1. Promoting Improved Environmental Dispute Prevention and Resolution

**Purpose:** To support the development of policies, practices and institutions and capacity building programs necessary for the successful prevention and resolution of environmental disputes.

**Primary Program Area:** Improved Environmental Governance (IR 1)

**In-country partners:** MoNRE, Supreme Court, King Pradjadipok's Institute, RECOFTC

**International partners:** U.S. EPA Center for Conflict Prevention and Resolution; US Institute for Environmental Conflict Resolution

**Description:** Environmental conflicts continue to be front-page news in Thailand. Infrastructure projects are frequently delayed due to disputes between project developers and communities who are not consulted in the siting process. One strategy for reducing conflict and promoting improved enforcement is to use dispute resolution techniques, such as facilitation, mediation, or consensus building.

Beginning in 2002, US-AEP/Thailand worked with the Thai Ministry of Natural Resources and Environment (MoNRE) and range of other stakeholders through a series of activities (video-conference, study tour, workshop, etc) to develop a draft environmental dispute prevention and resolution (EDPR) policy. In this effort, the US Environmental Protection Agency played a critical role both in providing technical assistance and in serving as a counterpart agency to the MoNRE by demonstrating EPA's own dispute prevention and resolution programs.

In 2003, US-AEP and EPA worked with MoNRE and other organizations to support implementation of the new policy. As a first step, US-AEP and EPA completed a scoping exercise and stakeholder consultations to begin to identify major challenges, priority issues, mediator qualifications and training needs. Based on results of the scoping and consultations, US-AEP, EPA, MoNRE and the Thai Supreme Court piloted dispute prevention and resolution training for key officials, resulting in the development of a core curriculum and creation of a core group of trained mediators.

Most significantly, however, as a result of US-AEP engagement, MoNRE established a new mediation center that meets legal requirements under a recent Prime Ministerial Order mandating that all government ministries establish dispute resolution capabilities. This new "center of excellence" will support continued skills development of government and civil society leaders, and the creation of a roster of capable mediators.

In 2004, US-AEP and EPA will continue work with MoNRE through a series of targeted activities aimed at further implementation of the EDPR policy. Key elements will include working with Thai and U.S. agencies and organizations: (1) to develop guidelines and strategies for MoNRE and other practitioners to use in selecting mediators, conducting a mediation, covering implementation costs, training and awareness raising; (2) to refine the pilot course and further adapt to Thai needs; (3) to conduct specialized trainings for a range of participants, including MoNRE regional offices; and (4) to identify preliminary institutional models for establishing an EDPR center.

**Expected Results:**

- Development of dispute prevention and resolution practitioners guidelines (FY04)
- Refinement of pilot training course and further training of Thai mediators (FY04)
- Train mediators in pilot training in MoNRE Regional Office (FY04)
- Development of options for institutional models for strengthening EDPR center (FY04)
- Continued training of over 200 practitioners (FY05)
- Successful mediation of environmental disputes by trained practitioners (FY05)
- Establishment of environmental mediation center of excellence as independent foundation (FY06)

**Implementation Activities:**

- PADCO: Support refinement of training course piloted in FY03 to adapt to Thai needs, organize consultation meetings to develop mediation guidelines and institutional options, support organization of training sessions.
- EPA: Support adaptation of training materials and provide technical guidance on policy issues through technical exchanges, and assist with organization of study tour to U.S.
- TAF: Grant to RECOFTC to support development of training curriculum.
- EPSG: Arrange study tour to U.S. to evaluate institutional models for establishing a mediation center (e.g., visit USIECR) and refine proposed mediation guidelines.

## **2. Strengthening Court Policies, Practices and Institutions for the Environment**

**Purpose:** To formulate improved court policies, practices and institutions for the environment, including the establishment of an environmental bench and/or court, and training of key judges and experts.

**Primary Program Area:** Improved Environmental Governance (IR 1)

**In-country partners:** Office of President of Supreme Court, Administrative Court, Chulalongkorn University, Judicial Training Institute

**International partners:** U.S. Federal Judicial Center

**Description:** Court decisions provide the floor for environmental enforcement. In the last three years – due in part to support from US-AEP – Thai courts have handed down landmark environmental decisions that are sending signals to both regulators and polluters. Notable cases are the decision by the Administrative Court to issue injunctions closing illegal landfills, and the decision by the Courts of Justice in the Klongtoey case to award damages to victims.

Building on this momentum, in 2003 US-AEP worked with the Office of the President of the Supreme Court to develop a draft framework strengthening court policies and practices for the environment. Program activities included inventorying and analyzing environmental cases, and exchanging lessons learned with regional and U.S. counterparts through roundtables and regional judges' forum. One significant outcome was the establishment of an environmental "green" division within the Thai Supreme Court, which will support specialized training for judges and give special attention to environmental cases.

In 2004, US-AEP will continue this partnership with the Thai courts. Primary objectives include: (1) strengthening court policies and procedures for environmental cases; (2) defining judicial capacity building requirements; and (3) exploring establishment of new institutional arrangements, such as a specialized environmental court. Activities will include consultation among senior judges and experts, further analysis through targeted research, and continued international exchange with other courts, including an international observational program.

**Expected Results:**

- Promulgate new court policies and procedures for environmental cases (FY04)
- Develop action plan for establishing environmental bench within Supreme Court (FY04)
- Maintain sustainable linkages with counterpart courts and judges (FY04)
- Define judicial capacity strengthening requirements (FY04)
- Develop core curriculum and training key judges on environmental law and practice (FY05)

- Handing down of more informed and innovative environmental case decisions (FY05)
- Develop requirements and action plan for establishing environmental court (FY05)
- Establishment of specialized environmental court (FY06)
- Creation of formal training program at Judicial Training Institute (FY06)

#### **Implementation Activities:**

- PADCO: Provide targeted technical assistance, organize consultation meetings and workshops for refining court policies, plans and practices, and facilitate linkages with other courts.
- TAF: Grant to Institute for Legal Education (ILE) to support consultation and planning process.
- EPA: Coordinate continued interaction with U.S. Federal District Court, New Jersey.
- EPSG: Arrange study tour to environmental court within region to evaluate institutional models for establishing new bench/court and refine court policies and practices.

### **3. Supporting Enactment and Implementation of the Public Consultation Act**

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**Purpose:** To support enactment of the Public Consultation Act by facilitating further consultation with civil society to refine draft provisions and to continue implementation support through establishment of a public participation center of excellence

**Primary Program Area:** Improved Environmental Governance (IR 1)

**In-country partners:** Council of State, Executive Public Administrative Foundation, King Prajadhipok's Institute

**International partners:** International Association for Public Participation (IAP2)

**Description:** Strengthening public involvement in government decision-making is central to governance reform in Thailand, especially in the environment sector. Over the last three years, US-AEP and EPA have supported the Council of State, Thailand's legislative drafting agency, in developing the new Public Consultation Act, a far-reaching statute that introduces new methods for public involvement in environmental decision-making.

In 2003, US-AEP supported the Council of State and the Executive Public Administrative Foundation by: (1) completing an innovative notice-and-comment process on the draft law; (2) developing a comprehensive handbook of public participation methods for use by officials and other in implementing the law; (3) establishing linkages with International Association for Public Participation (IAP2); (4) organizing an IAP2 training resulting in the certification of four Thai practitioners and experts; and (5) completing an action planning session for key Thai practitioners and experts with IAP2.

Building on these efforts, in 2004, US-AEP and EPA will work with the Office of the Prime Minister to develop a specialized training curriculum for the CEO Governors and other senior officials and practitioners. Activities will include targeted technical assistance and training (includes inputs from IAP2), consultation workshops with civil society, and targeted exchanges and training with international counterparts. In addition, US-AEP will provide a grant to a coalition of civil society organizations to solicit comment on the draft law.

#### **Expected Results:**

- Development of pilot curriculum for CEO Governors and other senior officials (FY04)
- Training of key leaders and practitioners with support of IAP2 (FY04)
- Maintain linkage to IAP2 (FY04)
- Enactment of law by Parliament (FY05)
- Development of institutional options for establishment for training center of excellence (FY05)
- Establishment of Thai node for IAP2 (FY05)
- Training of over 200 practitioners, including MoNRE officials (FY05)
- Establishment of center of excellence (FY06)
- Adoption of core policies and practices by MoNRE and other line ministries (FY06)

### **Implementation Activities:**

- PADCO: Provide targeted technical assistance, organize consultation meetings and workshops for refining court policies, plans and practices, and facilitate linkages with other courts.
- TAF: Grants to support consultation process with civil society in refining draft provisions.
- EPA: Provide targeted technical assistance on public participation policy and practice.
- EPSG: Coordinate linkages with IAP2 via study visit to U.S. or visits by IAP2 to Thailand.

## **4. Strengthening Environmental Institutions: Improved Compliance and Enforcement Policies and Practices**

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**Purpose:** To support MoNRE in improving compliance and enforcement through policies and practices that strengthen MoNRE efforts to decentralize core functions to regional offices.

**Primary Program Area:** Improved Environmental Governance (IR 1)

**In-country partners:** MoNRE (Pollution Control Department)

**International partners:** Philippines Environmental Management Bureau; India National Pollution Control Board; Taiwan EPA; U.S. EPA

**Description:** With the creation of MoNRE in 2002, US-AEP has supported ministerial efforts to reengineer environmental institutions and strengthen capabilities. In 2003, US-AEP and EPA organized a senior-level observational program to the U.S. to enable senior decision-makers to strengthen their understanding of U.S. policy and practice in enforcement, dispute resolution, EIA and public participation. A central focus of the program was to illustrate U.S. institutional arrangements (headquarters, regional, state and local) to support MoNRE's efforts to decentralize core functions to regional offices and local governments.

As a follow-on activity in FY04, US-AEP and EPA will support MoNRE efforts to strengthen compliance and enforcement policies and practices through targeted technical assistance and counterpart exchange, especially with U.S. EPA. In particular, US-AEP and EPA will work with the PCD and MONRE Compliance and Enforcement Reform Committee to develop a strategic assessment of legal and policy obstacles, and possible interventions. In response to a directive from the Office of the Prime Minister, as part of this effort, MoNRE will consider legal reform options for granting PCD increased powers to enforce environmental laws. To ensure effective enforcement, the Committee and MoNRE will also identify strategies for strengthening Regional Environment Office (REO) compliance monitoring and enforcement capabilities. This project will also closely link with the US-AEP Regional Compliance and Enforcement Forum, and counterparts from Philippines and India could join in Thai activities, or host Thai visitors.

### **Expected Results:**

- Development of legal and policy reforms to strengthen MoNRE enforcement powers (FY04)
- Development of action plan for enforcement policy implementation, including identifying REO roles (FY04)
- Training of key MoNRE officials and practitioners on enforcement best practices at the central and regional levels (FY05)
- Development of compliance and enforcement performance indicators (FY05)
- Effective compliance monitoring and law enforcement based on program indicators (FY06)

### **Implementation Activities:**

- PADCO: Provide targeted technical assistance, and support organization of consultation meetings and workshops for refining enforcement policies and practices.
- EPA: Provide targeted technical assistance on compliance and enforcement policy and practice.
- EPSG: Involve experts from within the region (e.g., Taiwan) to participate in two workshops in Bangkok.

## 5. Promoting Community-based Environmental Management in the Thachin River Basin

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**Purpose:** To introduce community-based environmental management for the Thachin River and assist in the planning and development of specific projects for pollution prevention and watershed protection.

**Primary Program Area:** Improved urban environmental management, technologies and resource efficiency (IR2)

**In-country partners:** Ministry of Natural Resources and Environment (MONRE) Region 5; Thachin River Basin Coordinating and Management Subcommittee; We Love Tha Chin groups; Environmental Volunteer Network; Provincial and local governments

**International partners:** University of Maryland Center for Environmental Science; Chesapeake Bay Commission; Metropolitan Washington Council of Governments; Maryland Department of Environment; Businesses by the Bay; Lake Laguna Development Authority (LLDA), Federation of River Councils

**Description:** US-AEP/Thailand will strengthen Community-Based Environmental Management (CBEM) in the Thachin River Basin through a partnership with two other watersheds – the Laguna de Bay in the Philippines and the Chesapeake Bay in the U.S. The partnership activity will help provide local governments, community organizations, and government agencies in the region with the tools and methods necessary to protect and restore their watershed, and, in the process, provide a participatory model that can be used by other regions to improve the quality of their environmental resources. The project has three main objectives:

1. Strengthen Local Capacity in CBEM – Support efforts to empower communities, citizens, environmental groups, and local governments to engage in voluntary efforts to protect and restore environmental resources, such as raising awareness, monitoring environmental quality, participating in action planning, and assisting in resource restoration and protection activities.
2. Strengthen governance systems – Facilitate the adoption of CBEM best mechanisms for coordination on national, regional and local levels by showcasing collaborative approaches to environmental issues that have worked in the U.S. and in other countries.
3. Develop pilot projects – Assist in the planning and developing of specific projects for pollution prevention and watershed protection in areas such as animal waste management, solid waste management, water hyacinth, industrial cleaner production, and household waste management. In addition, provide assistance to mobilize resources to implement environment improvement measures.

**Expected Results:** Ultimately, the success of this project will be measured by the degree to which community based environmental management can be used to overcome environmental challenges in the Thachin River Basin, which will largely hinge on the continued participation of all the partners and their network of colleagues, citizens, and stakeholders working together to implement specific pollution prevention and watershed protection and restoration measures.

- The founding of a basin-wide organization (e.g. river council) that works effectively with various local citizen groups and local and national governments in developing an integrated work plan that details different approaches and activities to solve the pollution problems in the Thachin River Basin (FY04)
- 3-4 pilot projects developed and implemented, which may include: promoting voluntary reductions in industrial releases of pollutants; installing options to hold and treat waste water from households and swine farms; and implementing best agricultural management practices, such as integrated pest management and organic farming (FY 05).
- Improved understanding and working relationships between the communities and state authorities on environmental management.(FY 05)

- A sustainable basin-wide organization that can lead the efforts to restore, protect and conserve the environmental condition in Thachin River Basin (FY 05)
- A model for community-based environmental management that can be replicated elsewhere in Thailand and other countries in the region (FY 06)

#### **Implementation Activities:**

- Council of State Governments: Grant to University of Maryland Center for Environmental Science to coordinate the project, which will use a combination of exchanges, workshops and development planning.
- EPSG: Exchange funds will be used to fund exchanges of Tha Chin NGOs and concerned parties to visit Lake Laguna in the Philippines and Chesapeake Bay in the US, and the visits of US experts from the Chesapeake Bay.
- TAF Grants: A grant will be given to a federation of river basin groups, which will promote public education and action development campaigns. Other TAF funds will be used to support one or more pilot projects developed as part of the CBEM process.
- TSSC STTA: Short-term funds will be used to cover a Thai facilitator to lead CBEM processes on-the-ground.

## **6. Developing Integrated Emission Strategies for Existing Land Transport (DIESEL) Program for Bangkok**

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**Purpose:** To reduce particulate emissions from in-use diesel vehicles in Bangkok by working with national and municipal level agencies to adopt improved policy and technology solutions.

**Primary Program Area:** Improved urban environmental management, technologies and resource efficiency (IR2)

**In-country partners:** Pollution Control Department (PCD), Department of Land Transport (DLT), Office of the Transport and Traffic Policy and Planning, Bangkok Diesel Emissions Reduction Steering Committee, Thai Society of Environmental Journalists, and related NGOs

**International partners:** World Bank, US Environmental Protection Agency, EPA's National Vehicle and Fuel Emissions Laboratory

**Description:** In Bangkok, it is estimated that diesel vehicles comprise less than 10% of the vehicle fleet but contribute 89% of emissions of PM10 from vehicles. Several technical and policy options exist to control diesel emissions, ranging from improved transport management and driver behavior to new technologies based on cleaner diesel or alternative fuels. However, there is limited real-world information and data on the local and global emission reductions of a combination of policies and technologies in the context of developing countries, and these crucial information gaps hamper the selection and implementation of effective measures and programs to reduce diesel emissions in urban transport.

The DIESEL Program aims to develop knowledge-based reference tools and to propose strategic policy options in order to help policymakers implement effective measures for diesel vehicle pollution reduction. Bangkok, Thailand, has been chosen as the location to implement the pilot, as a first step in implementing the DIESEL program. The program was formulated according to five principal tasks:

- Enhance the capacity of local stakeholders in Bangkok and other cities to understand the factors affecting local and global emissions of their in-use diesel vehicle fleet.
- Measure Particulate Matter (PM) and local pollution emissions reduction potential and fuel or energy efficiency improvements of selected technical alternatives that would be of interest to all major cities.
- Assess the effectiveness of a select number of viable and affordable policies and technical measures to reduce diesel vehicle emissions which maintain or improve overall accessibility of the poor to the transport system.
- Prepare tools to assist decision makers in developing urban diesel emission action plans which reflect the political, social, and economic implementation realities of developing countries.

- Disseminate the research finding through the Clean Air Initiative networks in Africa, Asia and Latin America.

In the first stage, US-AEP/Thailand will support the efforts of the Pollution Control Department and the Department of Land Transport to gain a better understanding of factors affecting in-use diesel vehicle emissions, to quantify them where possible, and to assess alternative mitigation options. In the second stage, which will start next year, US-AEP/Thailand will assist in implementing specific mitigation measures identified in the first phase.

#### **Expected Results:**

- An extensive and appropriate knowledge base, along with analytical tools, developed to evaluate key technical and policy interventions in reducing emissions from diesel vehicles (FY 04)
- Development of comprehensive diesel pollution management strategies and action plans for in-use diesel vehicles in Bangkok (FY 04)
- Specific emissions reductions measures undertaken, e.g. overall regulatory regime; in-use vehicle options; new vehicle options; fuel and lubricant options; training and awareness programs (FY 05)
- Reduced levels of particulate matter emissions from diesel vehicles - estimated by the pollution emissions reduction potential of the technical and policy options that were undertaken (FY 06)

#### **Implementation Activities:**

- TSSC Short-term Technical Assistance: STTA funds will be used to pay a contractor to administer a survey of vehicle owners. STTA will also cover a full-time Thai Coordinator, who will help collect and analyze data, coordinate project activities, and document project results. Additional STTA will cover a Technical Advisor to provide specialized inputs to the project.
- TSSC Grant: A grant will be provided to a Thai partner to coordinate sourcing the approximately 200 diesel vehicles that meet certain criteria for emissions factor testing.
- EPSG: Exchange funds will be used to cover the travel costs of technical advisors to the project. In addition, two or three study tours will be planned for Thai partners, including an exchange to Hong Kong to learn about that city's innovative emissions control program and to attend a Smoke School program.
- EPA: Funds will be used to provide technical support to develop and implement a diesel vehicle testing procedure and to conduct a subsequent assessment of the emission reduction impacts of certain technical measures. Experts from the National Vehicle and Fuel Emissions Laboratory in Ann Arbor will provide much of this assistance. EPA funds may also be used to cover certain costs in the testing phase.

## **8. Improving Municipal Environmental Management**

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**Purpose:** To improve the environmental management in five to seven Thai cities by promoting best practices in city redevelopment and financial management and by strengthening Thai institutions to continue best practice dissemination.

**Primary Program Area:** Improved urban environmental management, technologies and resource efficiency (IR2)

**In-country partners:** Thai local governments; Department of Public Administration, Chulalongkorn University; Ministry of Finance; Municipal League of Thailand; Department of Local Administration

**International partners:** City of Portland, Oregon; International City/County Management Association; Government Finance Officers Association (GFOA)

**Description:** Environmental management is a major challenge facing the municipalities of Thailand, in view of rapid growth. While cities have five-year plans as required by the central Thailand government, most are ill prepared to meet the 2006 deadline to implement them, largely because the plans lack financial plans, priorities, schedules, and public involvement.

Most environmental planning efforts are "sold" to the public rather than developed through an inclusive process. As a result, it is much more difficult to take necessary, but politically difficult, actions. Meanwhile, cities continue to struggle with budgeting and financial management, as systems

are generally weak and public involvement minimal. As a result, water, wastewater, and solid waste are provided at highly subsidized rates. While the Thai central government does not grant cities the necessary financial freedom to fully recover their costs for environmental services, most cities fail to assess fees up to the level that is permitted by the government. US-AEP/Thailand will address these problems by supporting activities in three project components:

**Component 1: CityLinks Partnership with Portland – ICMA will facilitate a long-term partnership between Portland and the three Thai cities of Chiang Mai, Phuket, and Khon Kaen to strengthen municipal management, improve public service delivery, and encourage democratic participation by their citizens. The partnerships with Portland will foster links between a wide spectrum of citizens and community members (e.g. educational institutions, non-governmental organizations (NGOs), and other public and private sectors of the community).**

The participating Thai cities have selected two sub-projects to be undertaken under this project, including (1) the improvement of the downtown area and (2) sustainable environmental management through sound financial practice. The partnership will assist the three Thai cities to develop mechanisms based on the increased public participation in the two sub-projects as well as increased collaboration between the municipalities on these issues.

Over the course of the two-year project, four exchange trips between Portland, Oregon and Thailand are planned for this project. In addition, each of the three Thai cities is responsible for organizing activities that will engage the public to participate in the project as well as to gain public support on the proposed sub-projects. These may include, but not limited to, public meetings and public relations campaigns within their cities.

**Component 2: Promotion of Good Practices in Budgeting and Financing – Through the CityLinks mechanism, US-AEP/Thailand will work with the City of Rayong and a Thai partner, likely the Department of Public Administration at Chulalongkorn University, to replicate best practices in citizen participation and financial management & budgeting. As part of this activity, US-AEP/Thailand will promote the participatory budgeting tool developed by Rayong that was developed through a previous Resource Cities Program between Rayong and Portland. That activity resulted in the development of a 5-year budget planning document that involved significant community input and the creation of a citizen review board. It will serve as a critical tool that to enhance the city's ability to plan for capital improvements.**

**Component 3: Support Creation of Local Finance Association – US-AEP/Thailand will work with a number of Thai partners, likely to include the Local Finance Officers Club and the Municipal League of Thailand, to develop a professional association for finance directors in Thailand. Such an association can serve as a platform for developing training programs and practices for local government employees. The Government Finance Officers Association in the U.S. will serve a model partner in this effort.**

### **Expected Results:**

#### **Component 1:**

- Local officials will learn participatory processes to engage citizens in developing and implementing environmental and development projects (FY 04)
- Improved urban environmental conditions along the two canals, as proposed by Chiang Mai and Phuket, and in the select old downtown district in Khon Kaen (FY 05)
- Increased wastewater fees paid by residents, providing funds for other projects that benefit the citizens of the communities. (FY 05)

#### **Component 2:**

- Improved financing and budgeting processes in 5-7 Thai cities, following the successful experience of Rayong (FY 05), as measured by the following:
- Financial management improved in four key areas: balanced budgets, maintaining adequate financial reserves, one-time revenues to fund one-time expenditures, and using measurements of affordability when considering new or increased revenues.
- Five-year budget process replicated in 5-7 Thai cities

### Component 3:

- Creation of a professional association for finance directors in Thailand that will serve as a platform for developing training programs and practices to assist local government employees with financial management responsibilities (FY 05).

### Implementation Activities:

- ICMA CityLinks: CityLinks funds will be used to facilitate a long-term partnership between Portland and 3 Thai cities through a series of study tours, exchanges, and workshops. Additional CityLinks funds will be used to implement Component 2. An additional amount will be used to support a local counterpart institution (such as the Municipal League of Thailand).
- ICMA: Additional FY03 funds will be used to support the Department of Public Administration at Chulalongkorn University with their efforts to collect and disseminate best practices in local environmental management.
- TSSC Grant: A grant will be provided to the Local Finance Officers Club of Thailand.
- EPSG: Exchange funds will supplement ICMA funds as needed for the CityLinks projects and will pay for a Thai delegation to attend the annual GFOA Conference in June, 2004.

## 8. Reducing Fossil Fuels Consumption by Promoting Renewable Energy and Energy Efficiency

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**Purpose:** To assist Thailand in reducing its consumption of fossil fuels by promoting energy efficiency measures and introducing net metering from small producers of renewable energy.

**Primary Program Area:** Improved Resource Efficiency and Management

**In-country partners:** Energy Efficiency Development Association (EEDA); Department of Alternative Energy Development and Efficiency (DEDE), Energy Policy and Planning Office (EPPO), Energy Conservation and Entrepreneurs Association (ECEA), Metropolitan Electricity Authority (MEA), Provincial Electricity Authority (PEA), Electricity Generation Association of Thailand (EGAT), Federation of Thailand Industry (FTI), Industrial Finance Corporation of Thailand, Thai Chamber of Commerce, COGEN

**International partners:** Alliance to Save Energy; Oregon Economic and Community Development Department; State of Oregon, Department of Energy, Oregon-based companies and utilities

**Description:** Electricity provision in Thailand has long been characterized by centralization and the use of polluting fossil fuels and large hydropower. Thailand's increasing consumption of fossil fuels and growing dependence on fuel imports poses one of the major challenges facing the Thai government. To address this situation, US-AEP/Thailand will pursue an energy program that has two components:

Component 1: Strengthen the Capacity of the Energy Efficiency Development Association – US-AEP/Thailand will continue to strengthen and provide technical support to Energy Efficiency Development Association (EEDA), while at the same time strengthening the working relationships between EEDA and Energy Conservation and Entrepreneurs Association (ECEA). With technical support from Led by the Alliance to Save Energy and possible funds through a CSG grant, US-AEP/Thailand will fund the Association's full-time staff members through FY04 and will assist EEDA in the following areas:

- Support efficient implementation of compulsory regulations for "Designated Facilities" by Department of Alternative Energy Development and Efficiency (DEDE)
- Cooperate with Thai government and non-governmental organizations to implement monitoring and verification protocols for Thailand
- Advocate for improved energy efficiency and renewable energy financial incentives for Thailand
- Increase the adoption of cogeneration in Thailand
- Advocate for improved efficiency within the transportation sector
- Advocate for government policies and incentives that encourage local manufacturers to produce energy efficient commercial and industrial equipment

- Further develop the potential for net metering and renewable energy portfolio standards in Thailand.

Component 2: Reduce Barriers to Net Metering – US-AEP/Thailand will work to institutionalize net metered renewable energy in Thailand through regulations approved in 2002 that allow very small power producers (up to 1 MW per installation) of solar, wind, micro-hydroelectricity, biomass, or biogas electricity to sell their surplus output to the grid. To do this, US-AEP/Thailand will support a technical team of experts that will help remedy technical and institutional barriers to the implementation of the regulations (e.g. reluctance of the utilities to allow grid connectivity, different interpretation of applicable laws by the agencies involved, and low public awareness).

### **Expected Results:**

Component 1:

- Increased knowledge of and capacity for energy efficiency & energy management among practitioners in industry and municipal government (FY 04)
- Improved legislative and regulatory policies to promote energy efficiency (FY 05)
- Creation of a fully self-sustaining, widely recognized business association of energy efficiency companies in Thailand (EEDA) (FY 05)

Component 2:

- Reduction of barriers to interconnection and increased incentives for net metering (FY 04)
- Increased number of grid-connected net metered installations in Thailand (FY 05)
- Deployment of 10 MW of energy from very small renewable power producers (FY 05)
- Reduction of estimated 45,000 tons of CO<sub>2</sub> per year, which otherwise would have been emitted to generate electricity (FY 05)
- Because much of the most commercially viable VSPP generation is bio-gas from wastewater, we also expect considerable quantifiable reductions in water and air pollution associated with pig farms, cassava processing, and food industries. These environmental quality improvements include BOD and COD reductions, as well as removal of odorous airborne volatile organics (FY 05).

Note: Based on an estimated annual carbon emissions factor for Thailand of 0.599 tons CO<sub>2</sub> per MWh for the year 2005, as calculated by EcoSecurities Ltd (2003). Korat Waste To Energy Project, Thailand -- Project Design Document. Oxford, UK: 40.

### **Implementation Activities:**

- EPSG: Travel funds will be used to fund visits by U.S. experts to Thailand and Thai partners to participate in study tours to the U.S., particularly to Oregon.
- TSSC Short-Term Technical Assistance: These funds will be used to support the three-person project team for the Net Metering activity, including a Director, Deputy Director, and Communications Manager.